FIG. 1

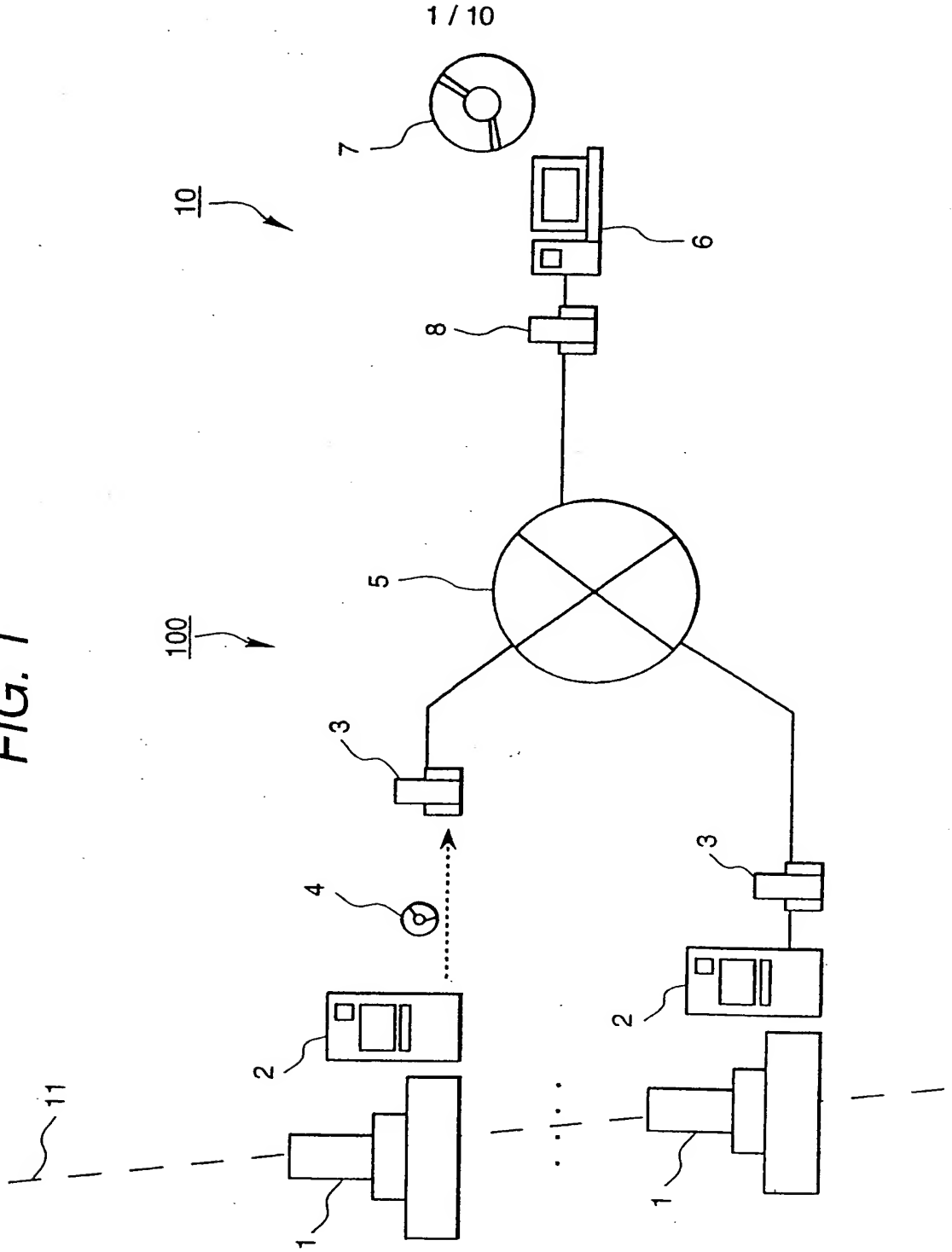

FIG. 2

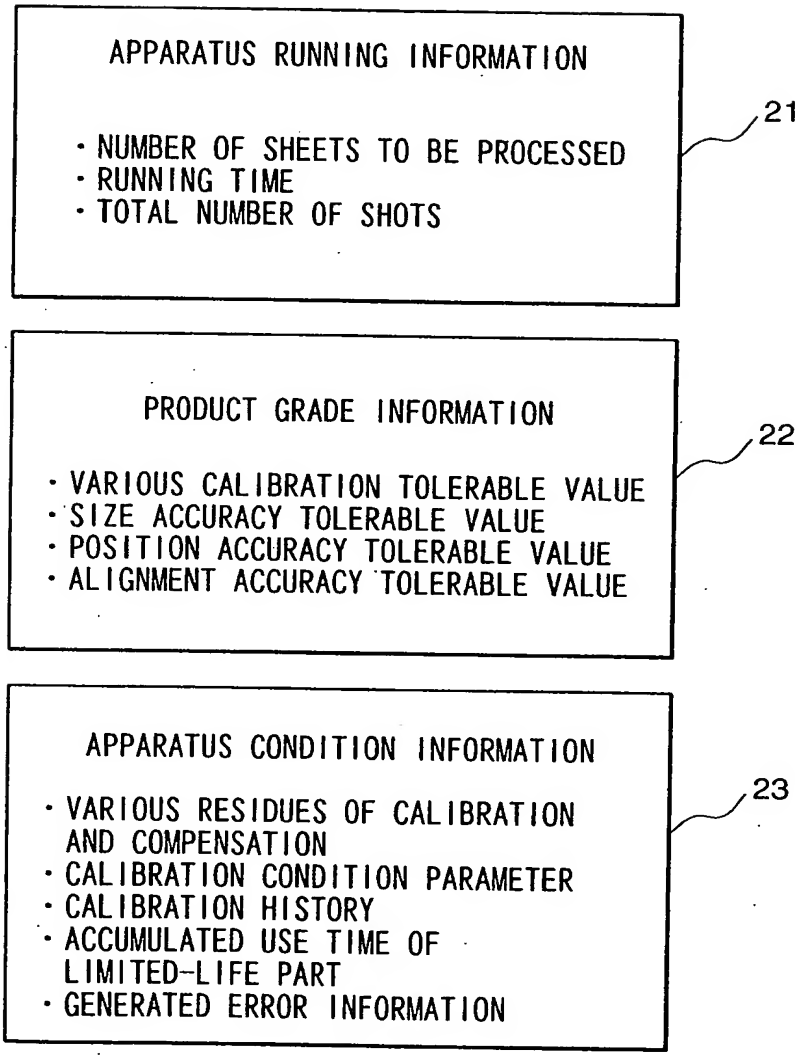
APPARATUS RUNNING INFORMATION
・NUMBER OF SHEETS TO BE PROCESSED
・RUNNING TIME
・TOTAL NUMBER OF SHOTS
21
PRODUCT GRADE INFORMATION
・VARIOUS CALIBRATION TOLERABLE VALUE
・SIZE ACCURACY TOLERABLE VALUE
・POSITION ACCURACY TOLERABLE VALUE
・ALIGNMENT ACCURACY TOLERABLE VALUE
22
APPARATUS CONDITION INFORMATION
・VARIOUS RESIDUES OF CALIBRATION AND COMPENSATION
・CALIBRATION CONDITION PARAMETER
・CALIBRATION HISTORY
・ACCUMULATED USE TIME OF LIMITED-LIFE PART
・GENERATED ERROR INFORMATION
23

FIG. 3

CHARGING SYSTEM FLOW

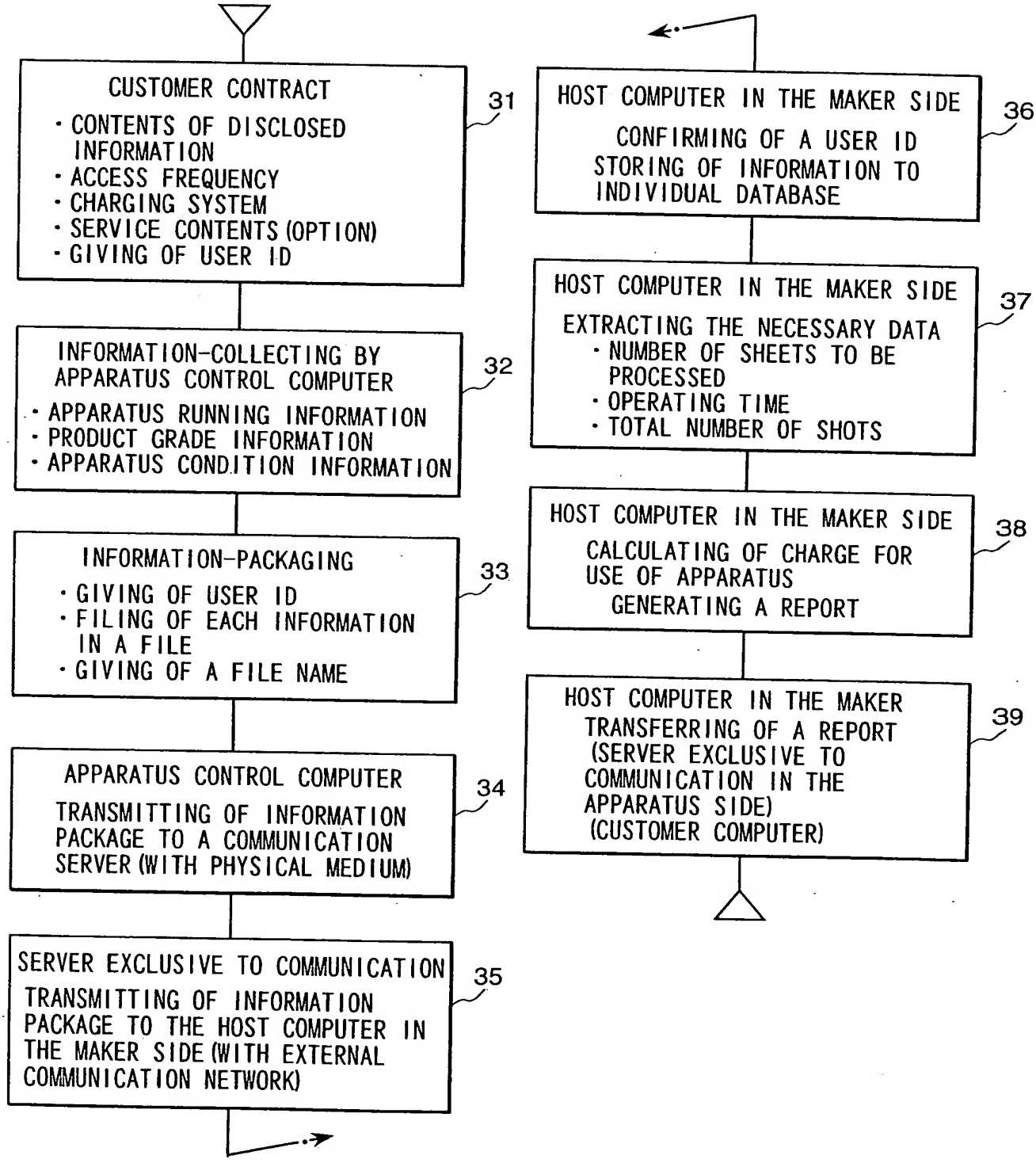

FIG. 4

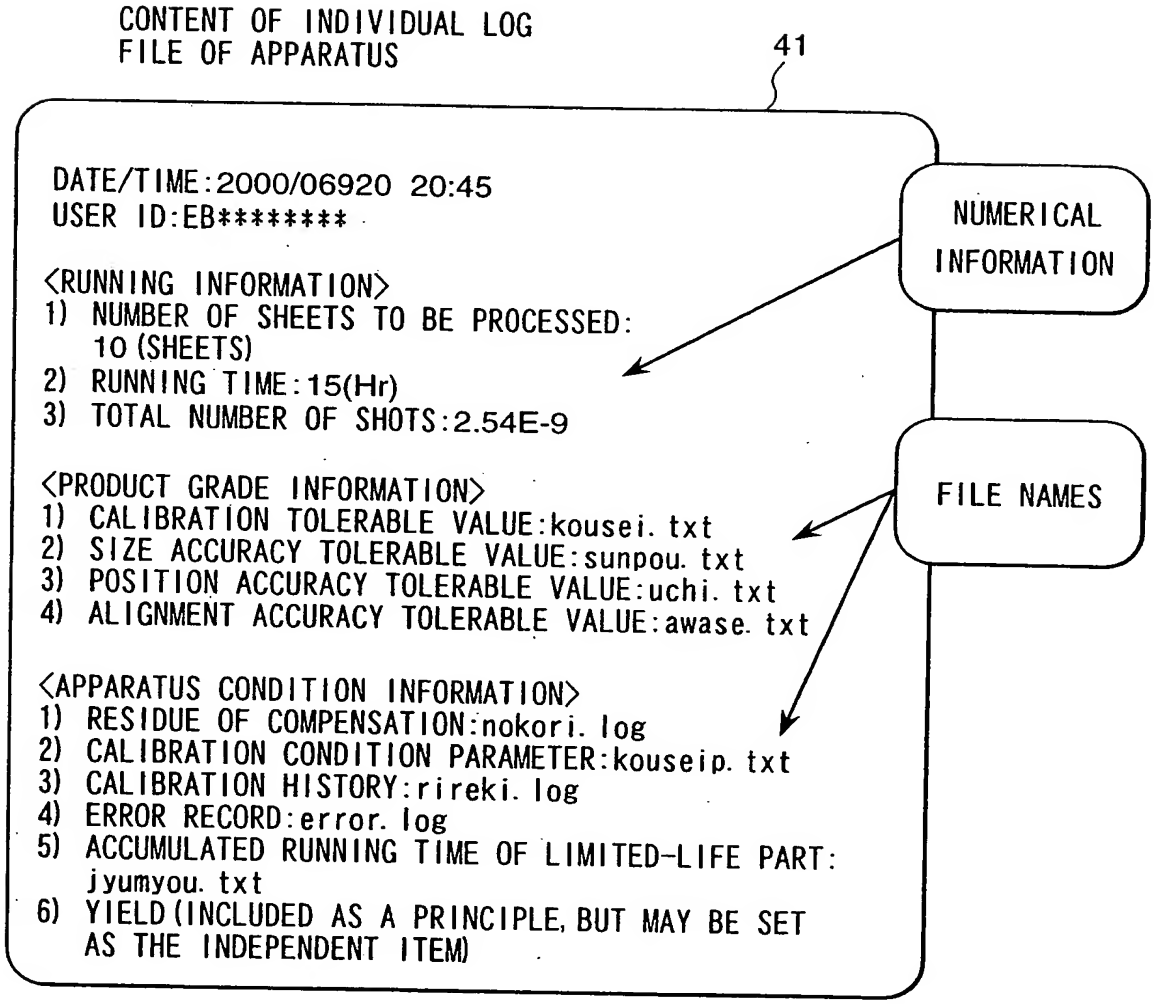
CONTENT OF INDIVIDUAL LOG FILE OF APPARATUS
41
DATE/TIME:2000/06920 20:45
USER ID:EB********
<RUNNING INFORMATION>
1) NUMBER OF SHEETS TO BE PROCESSED: 10 (SHEETS)
2) RUNNING TIME:15(Hr)
3) TOTAL NUMBER OF SHOTS:2.54E-9
<PRODUCT GRADE INFORMATION>
1) CALIBRATION TOLERABLE VALUE:kousei. txt
2) SIZE ACCURACY TOLERABLE VALUE:sunpou. txt
3) POSITION ACCURACY TOLERABLE VALUE:uchi. txt
4) ALIGNMENT ACCURACY TOLERABLE VALUE:awase. txt
<APPARATUS CONDITION INFORMATION>
1) RESIDUE OF COMPENSATION:nokori. log
2) CALIBRATION CONDITION PARAMETER:kouseip. txt
3) CALIBRATION HISTORY:rireki. log
4) ERROR RECORD:error. log
5) ACCUMULATED RUNNING TIME OF LIMITED-LIFE PART: jyumyou. txt
6) YIELD (INCLUDED AS A PRINCIPLE, BUT MAY BE SET AS THE INDEPENDENT ITEM)
NUMERICAL INFORMATION
FILE NAMES

FIG. 5

EXAMPLE OF CHARGE-CALCULATION ALGORITHM

(EXAMPLE 1) ・・・SIMPLE PROPORTION TO THE NUMBER
OF SHEETS TO BE PROCESSED
CHARGE FOR USE=NUMBER OF SHEETS TO BE PROCESSED×UNIT PRICE IN THE CONTRACT
(EXAMPLE 2) ・・・SIMPLE PROPORTION TO NUMBER OF SHOTS
CHARGE FOR USE=TOTAL NUMBER OF SHOTS×UNIT PRICE IN THE CONTRACT
(EXAMPLE 3) ・・・PROPORTION TO THE NUMBER OF SHEETS
(CONSIDERING THE GRADE)
CHARGE FOR USE=NUMBER OF SHEETS TO BE PROCESSED×UNIT PRICE IN
THE CONTACT×GRADE COEFFICIENT
GRADE COEFFICIENT:ROUGH PROCESS:0.8
USUAL PROCESS:1.0
FINE PROCESS :1.4
(EXAMPLE 4) ・・・PROPORTIONAL TO THE NUMBER OF SHEETS PROCESSED-
THROUGHPUT DELAY(CONSIDERING THE GRADE)
CHARGE FOR USE=NUMBER OF SHEETS PROCESSED×UNIT PRICE IN
THE CONTRACT×GRADE COEFFICIENT-RUNNING TIME×(1.4-GRADE COEFFICIENT)
(EXAMPLE 5) ・・・PROPORTIONAL TO THE NUMBER OF SHOTS-THROUGHPUT DELAY
(CONSIDERING THE GRADE)
CHARGE FOR USE=TOTAL NUMBER OF SHOTS×UNIT PRICE IN
THE CONTRACT×GRADE COEFFICIENT-RUNNING TIME×(1.4-GRADE COEFFICIENT)

FIG. 6

EXAMPLE OF CHARGE REPORT

61

<REPORT OF CHARGE FOR USE>

62

CUSTOMER ID:EB********
COLLECTION DATE:2000*06/20

63 64

CHARGE FOR USE:$x、xxx、xxx
(PRECEDING DAY:$Z、ZZZ、ZZZ)

65

(CALCULATION CONDITION)
NUMBER OF SHEETS TO BE PROCESSED:13 SHEETS
RUNNING TIME:12HOURS
TOTAL NUMBER OF SHOTS:3.3E9
PRODUCT GRADE COEFFICIENT:1.0
APPARATUS CONDITION COEFFICIENT:0.1
CALCULATION ALGORITHM:No.4

FIG. 7

EXAMPLE OF PERIODICAL CHARGE REPORT

71

<REPORT OF MONTHLY CHARGE FOR USE>

72

CUSTOMER ID:EB********
COLLECTION DATE:2000/05/21～2000/06/20

73 74

CHARGE FOR USE:$x、xxx、xxx
(PRECEDING DAY:$Z、ZZZ、ZZZ)

75

(CALCULATION CONDITION)
TOTAL NUMBER OF SHEETS PROCESSED:124 SHEETS
TITAL RUNNING TIME:240 HOURS
TOTAL NUMBER OF SHOTS:8.3E12
AVERAGE GRADE COEFFICIENT:1.2
AVERAGE APPARATUS CONDITION COEFFICIENT:0.1
CALCULATION ALGORITHM:No.4

FIG. 8

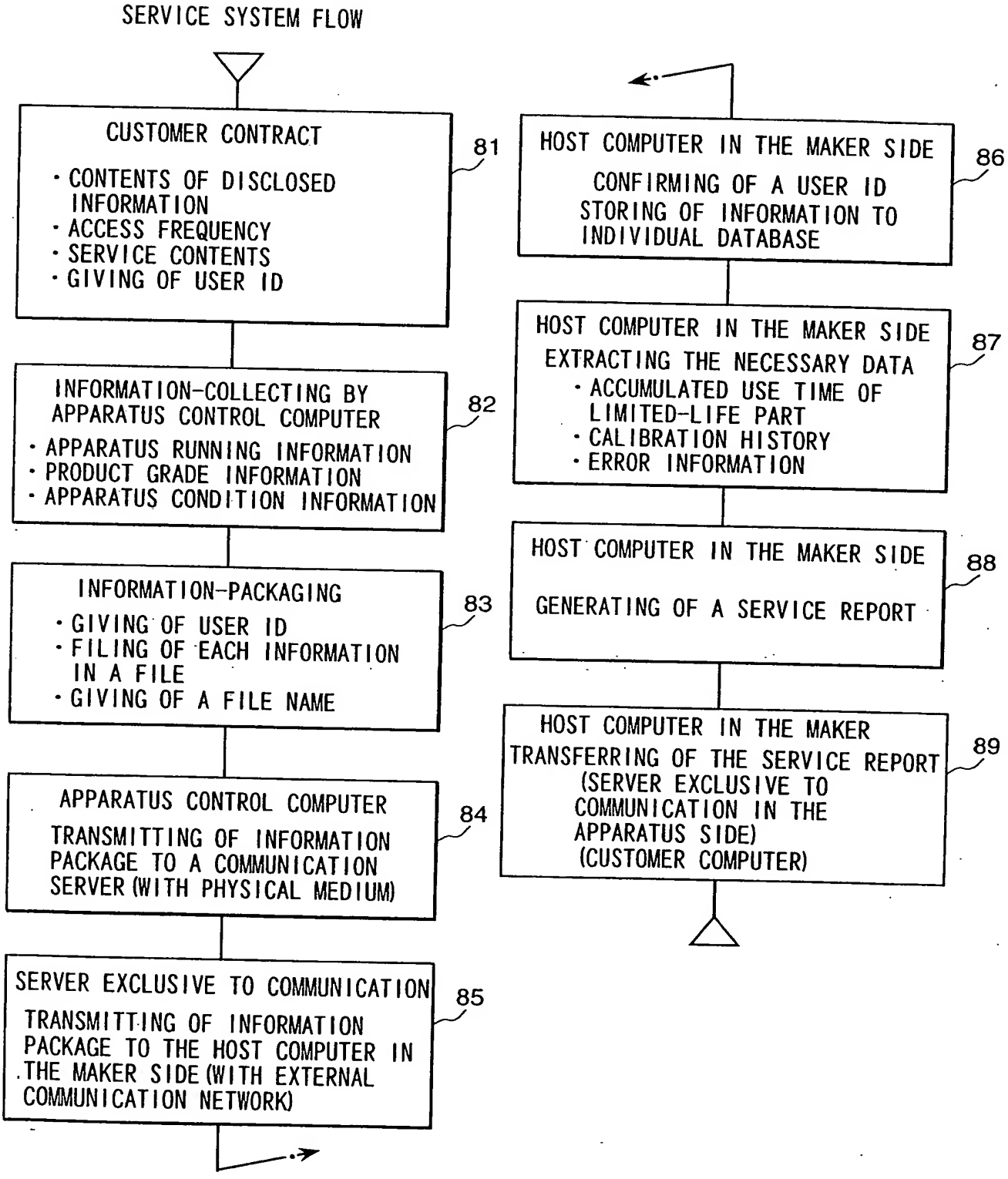
SERVICE SYSTEM FLOW
CUSTOMER CONTRACT
· CONTENTS OF DISCLOSED INFORMATION
· ACCESS FREQUENCY
· SERVICE CONTENTS
· GIVING OF USER ID
81
INFORMATION-COLLECTING BY APPARATUS CONTROL COMPUTER
· APPARATUS RUNNING INFORMATION
· PRODUCT GRADE INFORMATION
· APPARATUS CONDITION INFORMATION
82
INFORMATION-PACKAGING
· GIVING OF USER ID
· FILING OF EACH INFORMATION IN A FILE
· GIVING OF A FILE NAME
83
APPARATUS CONTROL COMPUTER
TRANSMITTING OF INFORMATION PACKAGE TO A COMMUNICATION SERVER (WITH PHYSICAL MEDIUM)
84
SERVER EXCLUSIVE TO COMMUNICATION
TRANSMITTING OF INFORMATION PACKAGE TO THE HOST COMPUTER IN THE MAKER SIDE (WITH EXTERNAL COMMUNICATION NETWORK)
85
HOST COMPUTER IN THE MAKER SIDE
CONFIRMING OF A USER ID
STORING OF INFORMATION TO INDIVIDUAL DATABASE
86
HOST COMPUTER IN THE MAKER SIDE
EXTRACTING THE NECESSARY DATA
· ACCUMULATED USE TIME OF LIMITED-LIFE PART
· CALIBRATION HISTORY
· ERROR INFORMATION
87
HOST COMPUTER IN THE MAKER SIDE
GENERATING OF A SERVICE REPORT
88
HOST COMPUTER IN THE MAKER
TRANSFERRING OF THE SERVICE REPORT
(SERVER EXCLUSIVE TO COMMUNICATION IN THE APPARATUS SIDE)
(CUSTOMER COMPUTER)
89

FIG. 9

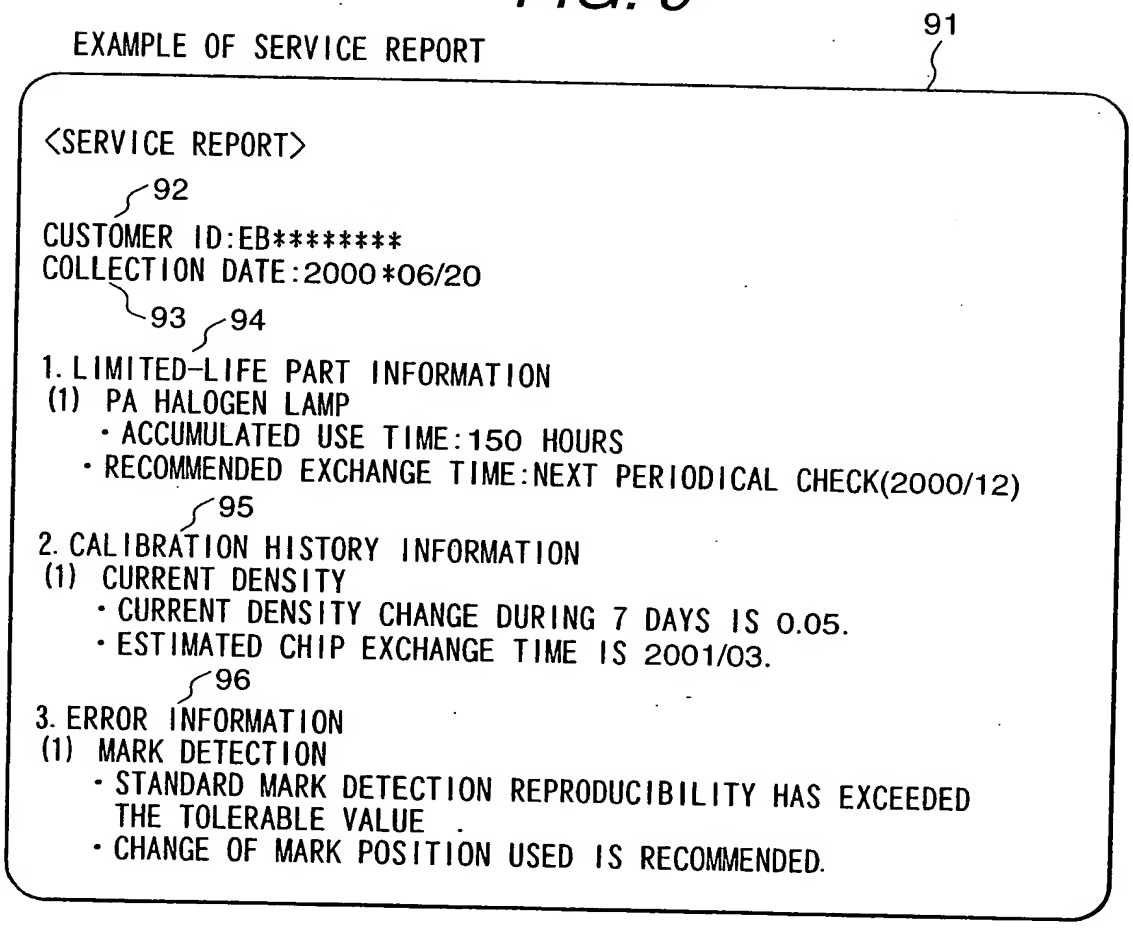
EXAMPLE OF SERVICE REPORT
91
<SERVICE REPORT>
92
CUSTOMER ID:EB********
COLLECTION DATE:2000*06/20
93
94
1. LIMITED-LIFE PART INFORMATION
(1) PA HALOGEN LAMP
・ACCUMULATED USE TIME:150 HOURS
・RECOMMENDED EXCHANGE TIME:NEXT PERIODICAL CHECK(2000/12)
95
2. CALIBRATION HISTORY INFORMATION
(1) CURRENT DENSITY
・CURRENT DENSITY CHANGE DURING 7 DAYS IS 0.05.
・ESTIMATED CHIP EXCHANGE TIME IS 2001/03.
96
3. ERROR INFORMATION
(1) MARK DETECTION
・STANDARD MARK DETECTION REPRODUCIBILITY HAS EXCEEDED THE TOLERABLE VALUE .
・CHANGE OF MARK POSITION USED IS RECOMMENDED.

FIG. 10

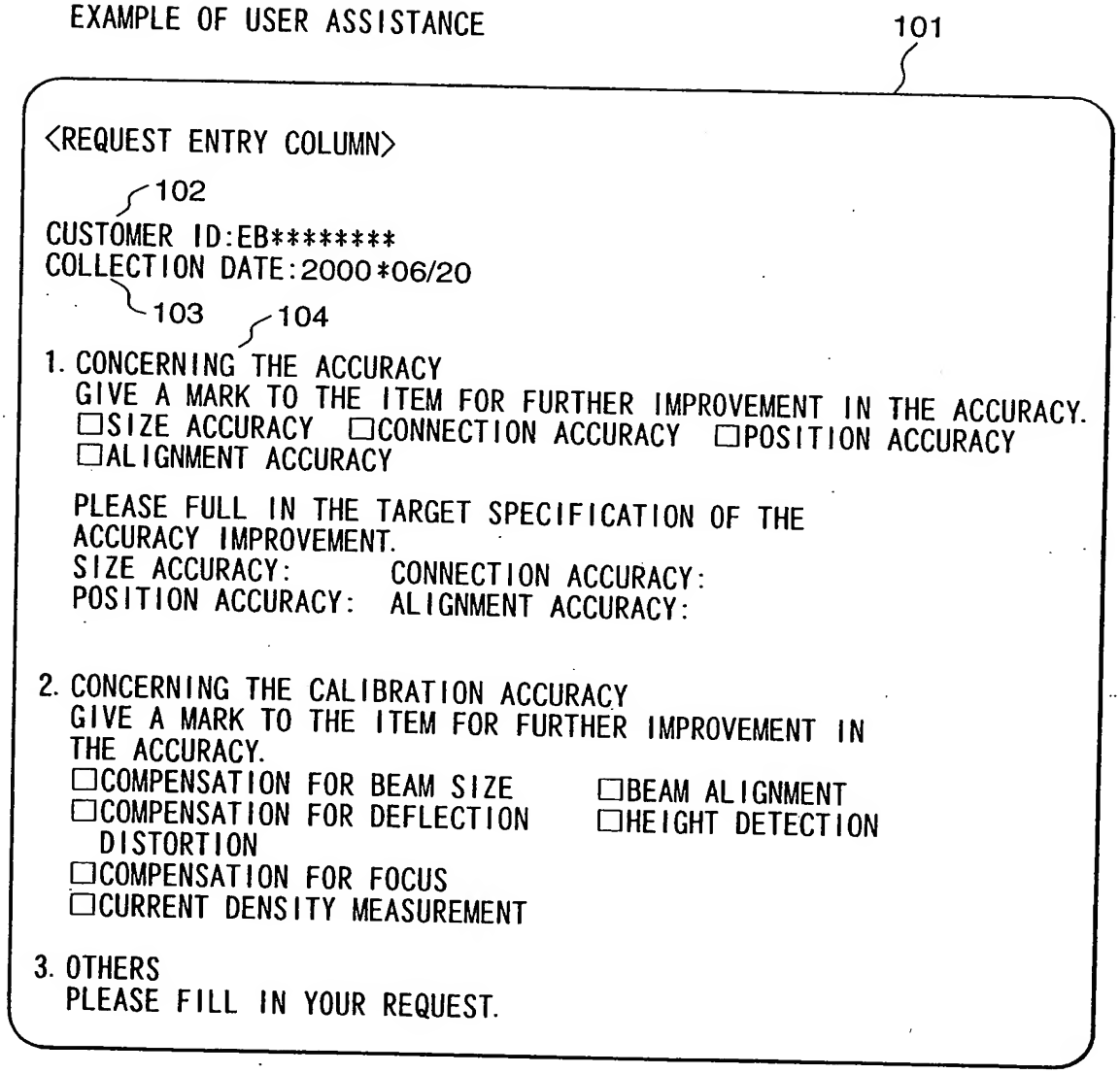
EXAMPLE OF USER ASSISTANCE
101
<REQUEST ENTRY COLUMN>
102
CUSTOMER ID:EB********
COLLECTION DATE:2000*06/20
103
104
1. CONCERNING THE ACCURACY
GIVE A MARK TO THE ITEM FOR FURTHER IMPROVEMENT IN THE ACCURACY.
☐SIZE ACCURACY ☐CONNECTION ACCURACY ☐POSITION ACCURACY
☐ALIGNMENT ACCURACY
PLEASE FULL IN THE TARGET SPECIFICATION OF THE ACCURACY IMPROVEMENT.
SIZE ACCURACY: CONNECTION ACCURACY:
POSITION ACCURACY: ALIGNMENT ACCURACY:
2. CONCERNING THE CALIBRATION ACCURACY
GIVE A MARK TO THE ITEM FOR FURTHER IMPROVEMENT IN THE ACCURACY.
☐COMPENSATION FOR BEAM SIZE
☐BEAM ALIGNMENT
☐COMPENSATION FOR DEFLECTION DISTORTION
☐HEIGHT DETECTION
☐COMPENSATION FOR FOCUS
☐CURRENT DENSITY MEASUREMENT
3. OTHERS
PLEASE FILL IN YOUR REQUEST.

FIG. 11(i)

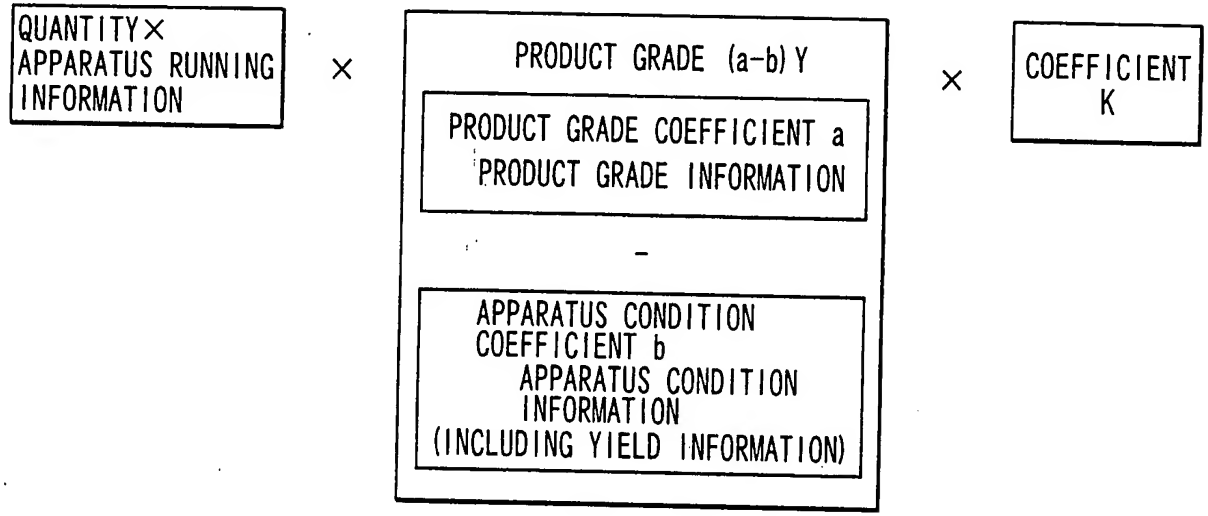
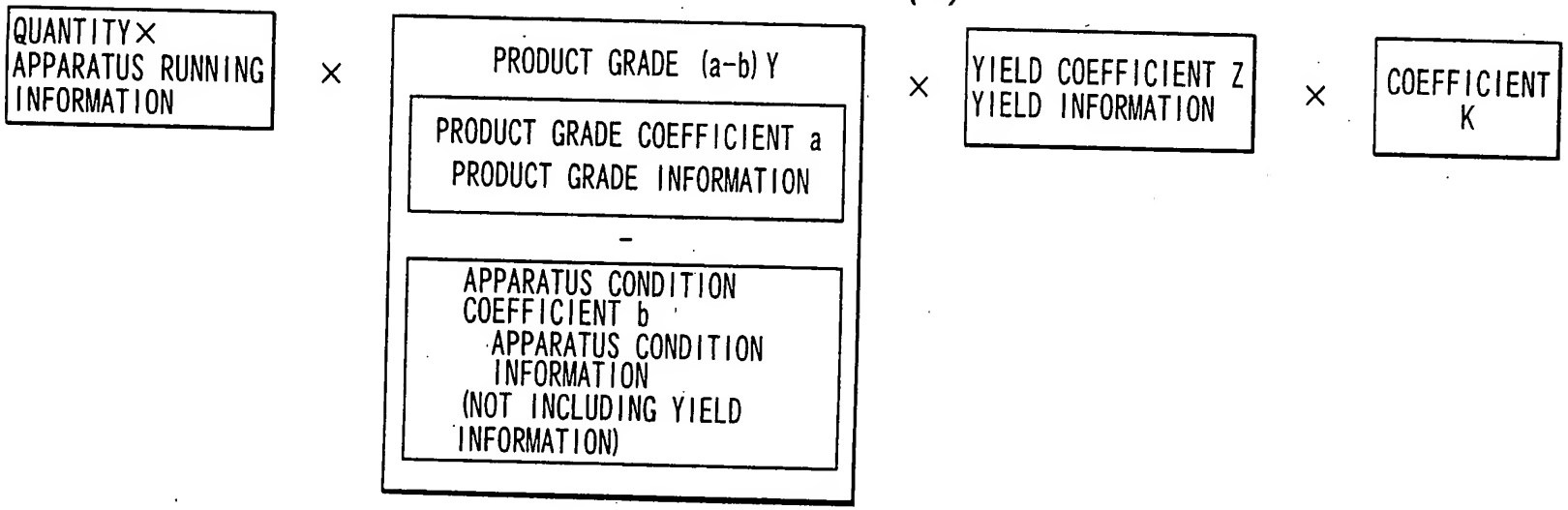
FIG. 11(ii)